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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/709,146	04/16/2004	Warren A. Weems II		3145

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EXAMINER	
BAUER, SCOTT ALLEN	
ART UNIT	PAPER NUMBER
2836	

DATE MAILED: 11/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/709,146	WEEMS, WARREN A.	
	Examiner	Art Unit	
	Scott Bauer	2836	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-6 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-6 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on 16 April 2004 is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☒ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Oath/Declaration

1. A new oath or declaration is required because the applicants declaration is not signed by the inventor. MPEP § 605.04(a) states that applications filed through the Electronic Filing System must also contain an oath or declaration personally signed by the inventor. Furthermore, there is an inconsistency between the application data sheet (ADS) and declaration. The ADS states that the applicant is named Warren A. Weems III., while the declaration states the applicant is named Warren A. Weems II. CFR 137 § 1.76 states the oath or declaration governs inconsistencies with the application data sheet in the naming of inventors (§ 1.41(a)(1)) and setting forth their citizenship (35 U.S.C. 115). The applicant should ensure that the name on the declaration is the correct name to be used.

2. The wording of an oath or declaration cannot be amended. If the wording is not correct or if all of the required affirmations have not been made or if it has not been properly subscribed to, a new oath or declaration is required. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application number and filing date is required. See MPEP §§ 602.01 and 602.02.

The oath or declaration is defective because the specification to which the oath or declaration is directed has not been adequately identified. See MPEP § 602.

Drawings

3. The informal drawings are not of sufficient quality to permit examination. Accordingly, replacement drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to this Office action. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the examiner does not accept the changes , the applicant will be notified and informed of any required corrective action in the next Office action.

Applicant is given a THREE MONTH time period to submit new drawings in compliance with 37 CFR 1.81. Extensions of time may be obtained under the provisions of 37 CFR 1.136(a). Failure to timely submit replacement drawing sheets will result in ABANDONMENT of the application.

4. With regard to Figure 1, the page was submitted in such a way that part of the drawing was not received. The drawing should be resubmitted to fully include the boxes in the bottom left hand corner of the figure.

5. With regard to Figures 2 & 3, the applicant does not label every component in the figure. A component near the bottom is labeled "Connection A", however the component above this has no label at all.

6. Figure 6, 10, 11 & 12 is objected to because it contains matter that is not described in the specification. The "ground current oscillation circuit" is coupled to a component that is not mentioned in the specification and is not labeled in the figures.

7. Figure 7 is objected to under 37 CFR 1.83(a) because it fails to show and label the current transformer and LED as described in the specification. Any structural detail that is essential for a proper understanding of the disclosed invention should be shown and labeled in the drawing. MPEP § 608.02(d). Further, an arrow should be drawn between the boxes labeled "ground fault" and "hand held detector" and that which is being described.

8. The drawings are further objected to because the applicant provides no Figure 9. As the specification makes reference to Figure 9, the drawing must be submitted.

9. Figure 10 is objected to because the labels do not have arrows indicating what each label is describing. Figure 10 should also indicate what is portable and what is not.

10. Figure 11 is objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: The boxes "Can be fed from here" and "Or can be fed externally", are not made of reference in the applicant's description of Figure 11. Further it is unclear whether these boxes are circuit

components or descriptions of the circuit, as boxes with written descriptions and arrows are used both for labeling of circuit components and for the components themselves.

11. Figures 10-12 are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference characters "1 & 2" and "a & b" have both been used to designate junction point terminals. The reference characters in the specification are referred to as a & b, however, they are labeled, 1 & 2 in the figure.

12. Figures 1-4 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g).

13. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheets should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or

"New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Abstract

14. Applicant is reminded of the proper content of an abstract of the disclosure.

A patent abstract is a concise statement of the technical disclosure of the patent and should include that which is new in the art to which the invention pertains. If the patent is of a basic nature, the entire technical disclosure may be new in the art, and the abstract should be directed to the entire disclosure. If the patent is in the nature of an improvement in an old apparatus, process, product, or composition, the abstract should include the technical disclosure of the improvement. In certain patents, particularly those for compounds and compositions, wherein the process for making and/or the use thereof are not obvious, the abstract should set forth a process for making and/or use thereof. If the new technical disclosure involves modifications or alternatives, the abstract should mention by way of example the preferred modification or alternative.

The abstract should not refer to purported merits or speculative applications of the invention and should not compare the invention with the prior art.

Where applicable, the abstract should include the following:
(1) if a machine or apparatus, its organization and operation;
(2) if an article, its method of making;
(3) if a chemical compound, its identity and use;
(4) if a mixture, its ingredients;
(5) if a process, the steps.

Extensive mechanical and design details of apparatus should not be given.

15. The abstract of the disclosure is objected to because it is excessive in length. The abstract should be a brief concise statement summarizing the most important aspect of the invention. The Correction is required. See MPEP § 608.01(b).

Specification

16. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification. Examples of some errors, found in the specification are:

17. In paragraph [0044] of the disclosure, the number 62882471 appear randomly followed by the phrase "MSOffice62882471Needs more explanation and possibly a drawing reference". Paragraph [0045] contains the random number 62882677 and the phrase "MSOffice 62882677 Could be confusing if not clearly explained. See previous comment". Appropriate correction is required.

18. In paragraph [0042] the specification states that the LED used to indicate a ground current is "(shown in red)". The examiner assumes that the LED is shown in red in the applicant's figures. Because all patents and publications are printed in black and white, color cannot be used in the figures. This phrase is required to be removed from the specification. If in the alternative, the applicant intended this phrase to mean that the actual LED being described, is red in color, then the phrase should be rewritten in a clear manner.

Claim Objections

19. Claims 1-6 are objected to because of the following informalities:

20. The claims are generally narrative and indefinite, failing to conform with current U.S. practice and are replete with grammatical and idiomatic errors.

21. The applicant's Claim 1, lines 5 & 10 contain the word "ircuitry" and line 12 contains the word "detector.c"

22. The preamble of Claims 1-6 describes the invention as being an apparatus and a method. A single claim, which claims both an apparatus and the method steps of using the apparatus, is indefinite because it fails to positively recite the boundaries sought for protection. The metes and bounds of the claim cannot be determined because it is unclear as to which category of subject matter is sought for protection, i.e. the method or the apparatus.

The applicant is requested to separate that which is an apparatus from that which is a method and to claim each in separate claims in order to avoid further confusion.

23. Claims 1-6 are objected to as being indefinite and non-enabling for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Some examples of indefinite language used in the claims are as follows:

24. Lines 8 & 9 of Claim 1 state that the circuitry "will indicate which side of the field device is grounded by the voltage polarity". The applicant does not disclose how the voltage polarity is used to indicate this.

25. Lines 14 & 15 of Claim 1 disclose "Circuitry that will allow the measurement of ground fault current". This phrase is indefinite because the applicant does not disclose how the circuit allows for the measurement.

26. The words "enable" and "initiate" in Claim 1, lines 16 & 17 respectively, are indefinite in that they omit important subject matter that the applicant claims as the invention.

27. Claim 2 line 14 discloses a "soft ground" that "comes in and stays in". The language used is vague and should be reworded.

28. Claim 2 line 24 contains the phrase "and vise versa". The phrase "vise versa" is indefinite in that it is a general term and cannot be used to discern the metes and bounds of the claim.

29. Regarding claim 4, the phrase "such as" renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

30. The preceding examples do not include all instances of indefinite language and non-enablement in the claims but simple point out discrepancies found throughout the claims. Claims are used define exact limitations of an applicants invention and thus need to be exact and specific in nature.

31. Claims 1-6 are objected to for containing insufficient antecedent basis for limitations found throughout the claims. Some examples are:

32. Claim 1 recites the limitation "the field device" in line 7. There is insufficient antecedent basis for this limitation in the claim. Appropriate correction is required.

33. Claim 1 recites the limitation "offset voltage" in lines 5-6. There is insufficient antecedent basis for this limitation in the claim.

34. Claim 1 recites the limitation "ground fault current" in line 14. There is insufficient antecedent basis for this limitation in the claim.

35. Claim 1 recites the limitation "the actual ground resistance" in line 20. There is insufficient antecedent basis for this limitation in the claim.

36. Claims 1 & 2 are objected to because of the inclusion of quotation marks in the claims.

37. All subject matter found in the claims must be supported by the applicant's specification and thus quotation marks are not needed, as each term should already have been thoroughly described in the disclosure. These marks should not be used as they could imply that the terms could have any number of meanings. Appropriate correction is required.

38. Claims 1-4 are objected to because claims must be in one sentence form only. The claims have no specific length requirements however, each claim must comprise a single sentence.

39. Claims 5 & 6 are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim cannot be dependant on another multiple dependant claim. See MPEP § 608.01(n). Accordingly, the claims 5 & 6 have not been further treated on the merits.

40. Claims 3, 5 & 6 are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim should refer to other claims in the alternative only. See MPEP § 608.01(n). Accordingly, the claims 3, 5 & 6 have not been further treated on the merits.

41. Claim 5 is further objected to because it depends on itself.

Claim Rejections - 35 USC § 112

42. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

43. Claims 1-6 are rejected as failing to define the invention in the manner required by 35 U.S.C. 112, second paragraph.

The claim(s) are narrative in form and replete with indefinite and functional or operational language. The structure which goes to make up the device must be clearly and positively specified. The structure must be organized and correlated in such a manner as to present a complete operative device. The claim(s) must be in one sentence form only. Note the format of the claims in the patent(s) cited.

Claim Rejections - 35 USC § 103

44. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

45. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

46. Claim 1, as best understood by the examiner, is rejected under 35 U.S.C. 103(a) as being unpatentable over Crick (US 5302905) in view of Emery (US 4356443).

47. With regard to Claim 1, Crick teaches an apparatus used to detect and isolate faults that cause an imbalance in paired lines including shunt resistance faults. The apparatus has an internal circuit (50), which includes a pair of substantially balanced ac current outlet pathways (51 & 52) and a pair of high voltage bias pathways (90 & 92) in parallel. Crick further teaches an oscillator (78) in the circuit generates a low voltage longitudinal ac signal that is transmitted across the balanced pathways (51 & 52) and a dc power source (94) simultaneously generates a high voltage dc signal that is transmitted across the high voltage bias pathways (90 & 92). Both signals are further transmitted to the paired line (30) where it is the function of the high voltage dc signal to punch through any concealed faults in the line. In contrast, the low voltage ac signal travels the length of each conductor in the line and returns to the circuit as a metallic voltage signal. If there is any imbalance between the two conductors, the metallic voltage signals for the two conductors will be different. Accordingly, a differential

amplifier (82) in the circuit measures this difference and displays it in units of noise or balance. The units of balance are displayed on a monitor (14).

Crick does not teach that the display can comprise a chart recorder.

Emery, teaches an apparatus for detecting arc faults wherein the output can be connected to a strip chart recorder (column 4 lines 8-16).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Crick with Emery, by using a chart recorder as an output instead of the display (14) taught by Crick, for the purpose of creating a permanent record of the data recorded during the location of a ground fault.

Conclusion

48. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. As best understood, the following references are relevant to the applicant's invention.

49. Macleish (US 2823350), Huggins (US 4278931) & Hamilton (US 3800216), all teach methods of locating a ground fault in a system.

50. Macleish uses a potentiometer, ammeter, and oscilloscope to determine the location of a fault in a distribution system. By sliding the potentiometer (21), a user can determine the general location of a ground in a parallel load by reading a current on an ammeter. An oscilloscope is then used to detect the branch the ground is in.

51. Hamilton teaches a portable device that passes a known current of constant magnitude through the circuit. A voltmeter is then used to determine the location of the fault.

52. Huggins teaches a method to detect ground faults by placing a power source (23) between two balanced resistors (24 & 25). A meter then senses the current flowing through the resistors.

53. An examination of this application reveals that applicant is unfamiliar with patent prosecution procedure. While an inventor may prosecute the application, lack of skill in this field usually acts as a liability in affording the maximum protection for the invention disclosed. Applicant is advised to secure the services of a registered patent attorney or agent to prosecute the application, since the value of a patent is largely dependent upon skilled preparation and prosecution. The Office cannot aid in selecting an attorney or agent.

A listing of registered patent attorneys and agents is available on the USPTO Internet web site http://www.uspto.gov in the Site Index under "Attorney and Agent Roster." Applicants may also obtain a list of registered patent attorneys and agents located in their area by writing to the Mail Stop OED, Director of the U. S. Patent and Trademark Office, PO Box 1450, Alexandria, VA 22313-1450

54. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Scott Bauer whose telephone number is 571-272-5986. The examiner can normally be reached on M-F 8am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Sircus can be reached on 571-272-2058. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SAB

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